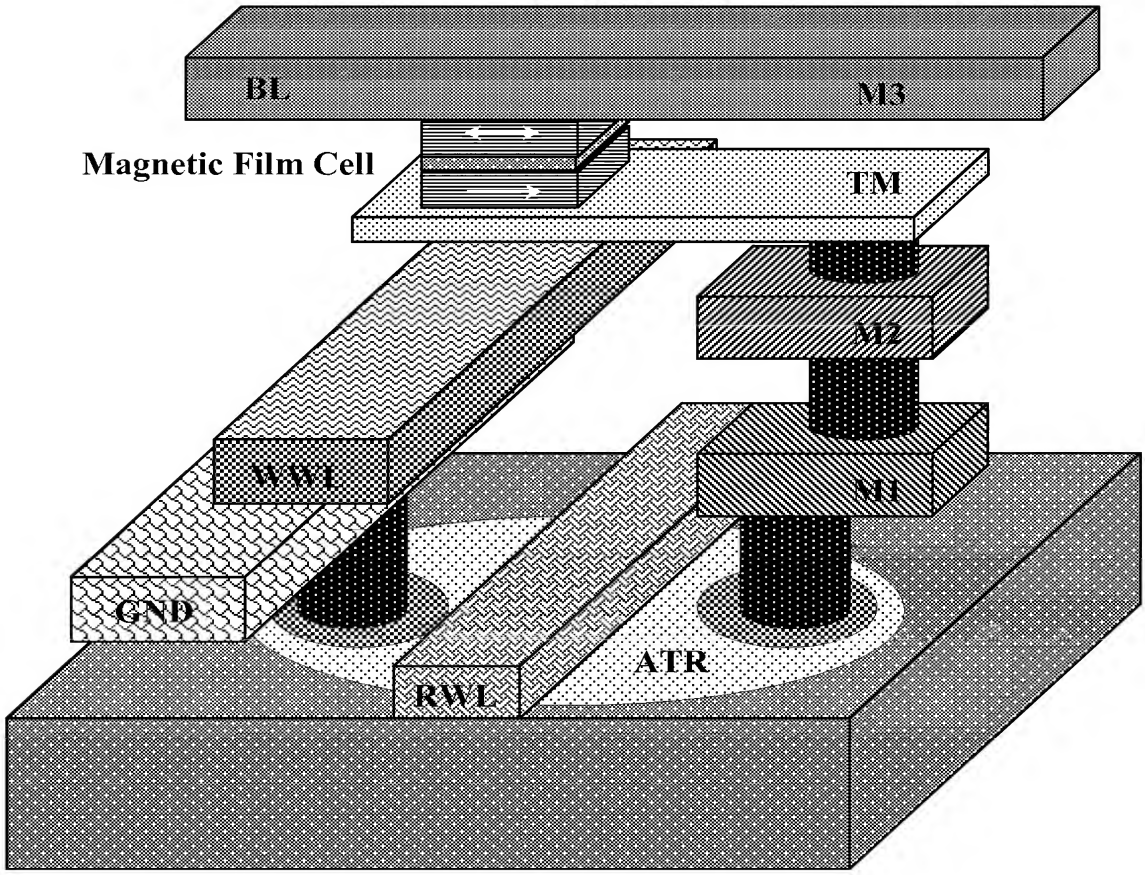

Fig. 1 （the prior art）

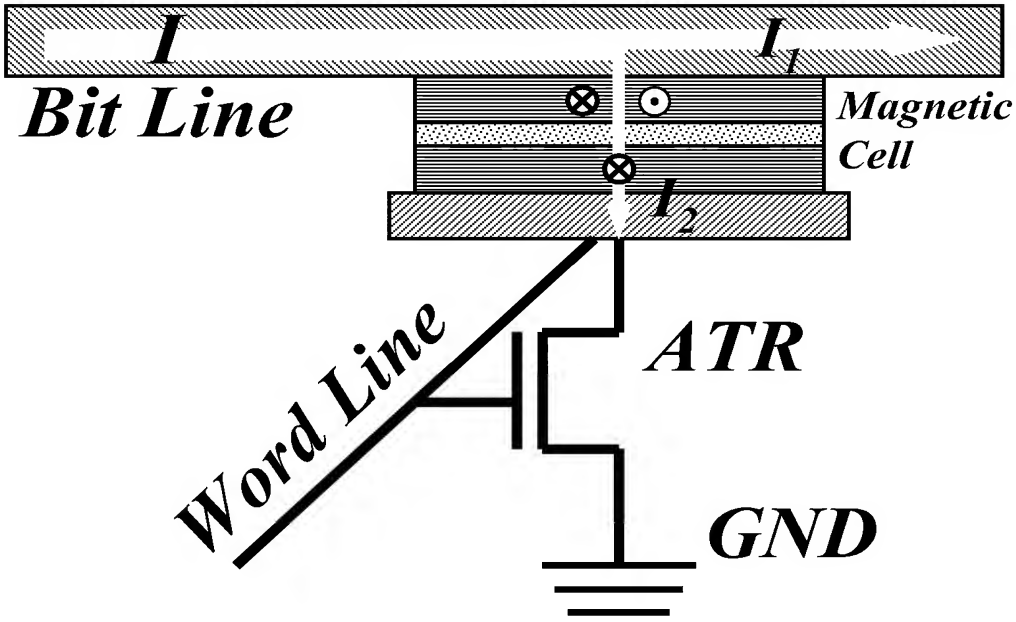
I
I1
Bit Line
Magnetic
Cell
I2
Word Line
ATR
GND

Fig. 2

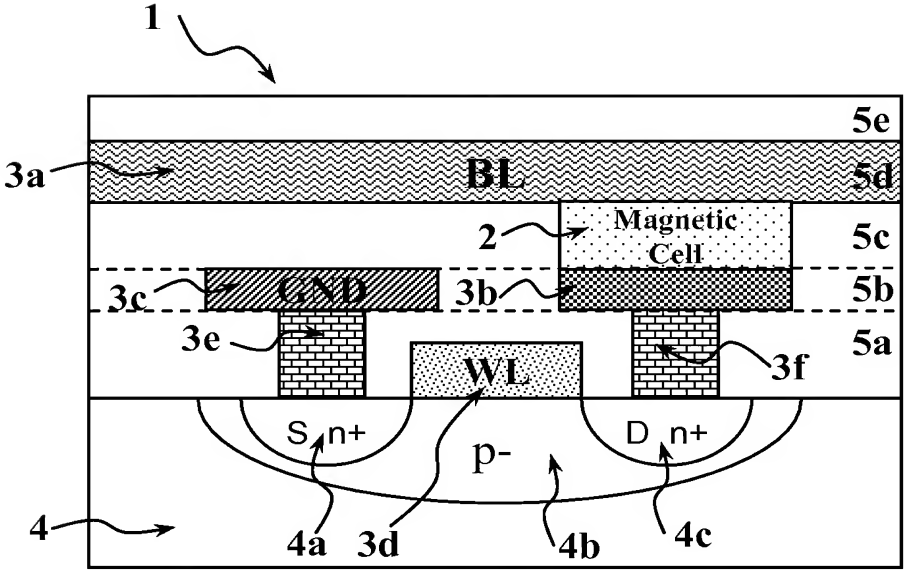
1
5e
3a
BL
5d
2
Magnetic
Cell
5c
3c
GND
3b
5b
3e
5a
WL
3f
S n+
p-
D n+
4
4a
3d
4b
4c

Fig. 3

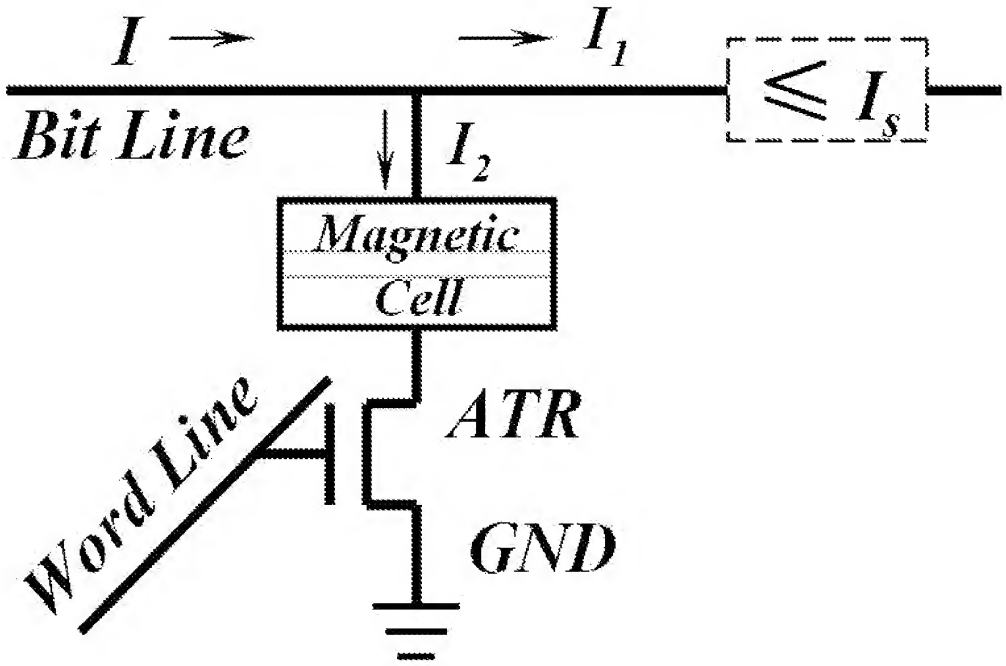

Fig. 4

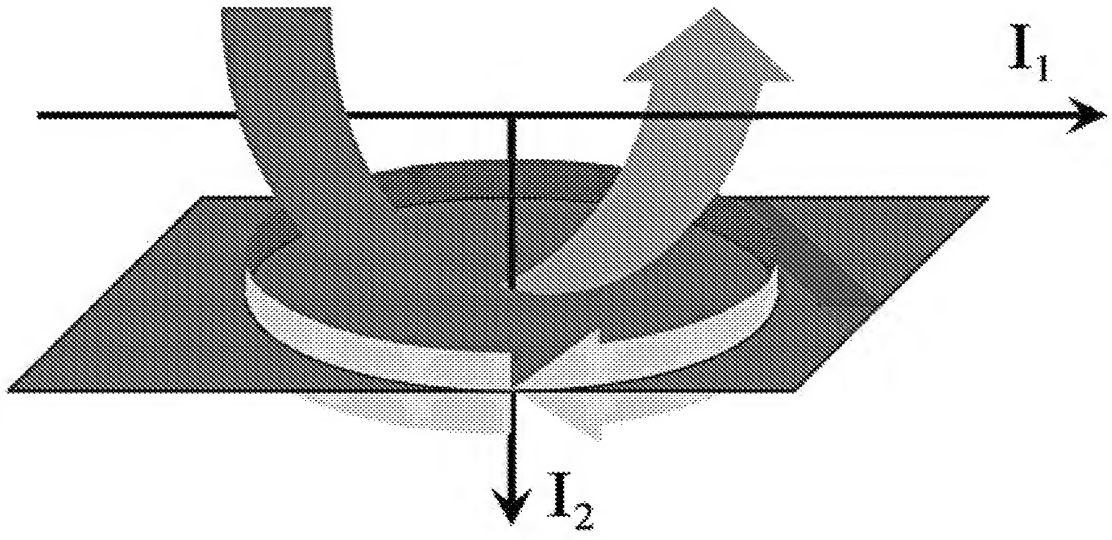

Fig. 5

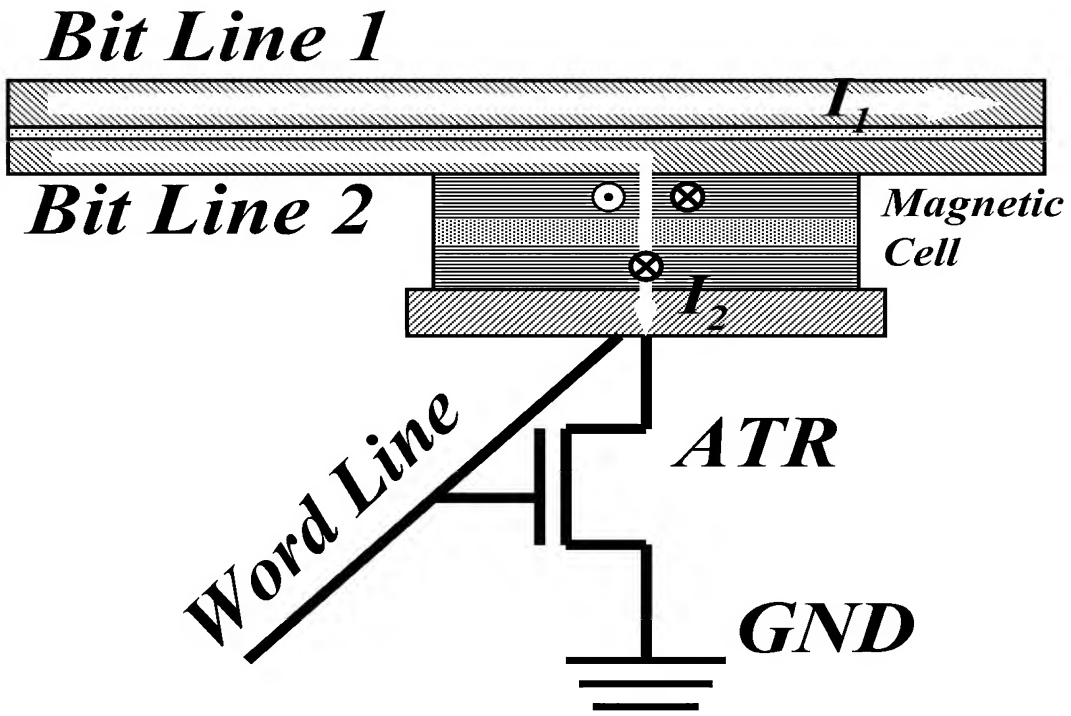
Bit Line 1
I_1
Bit Line 2
Magnetic Cell
I_2
Word Line
ATR
GND

Fig. 6

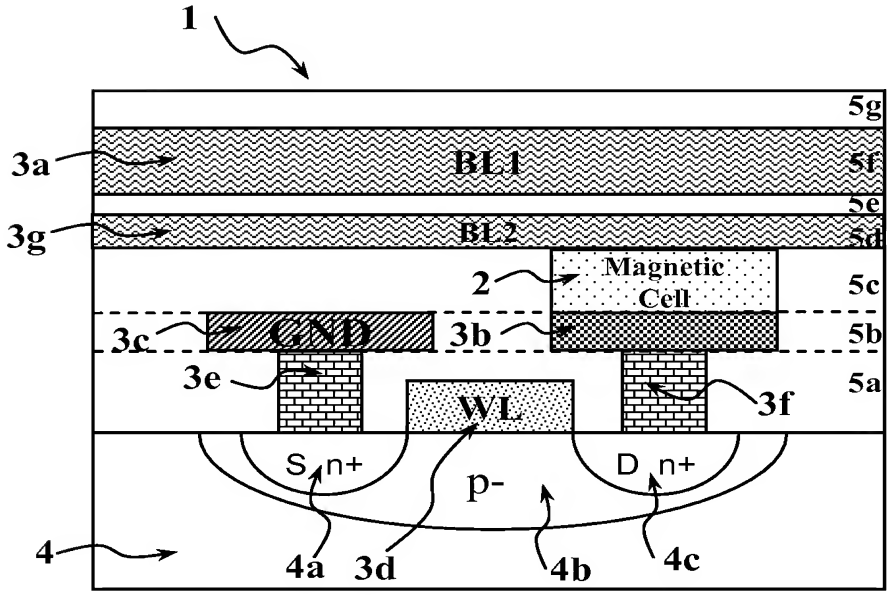
1
5g
3a
BL1
5f
5e
3g
BL2
5d
2
Magnetic Cell
5c
3c
GND
3b
5b
3e
5a
WL
3f
S n+
D n+
p-
4
4a
3d
4b
4c

Fig. 7

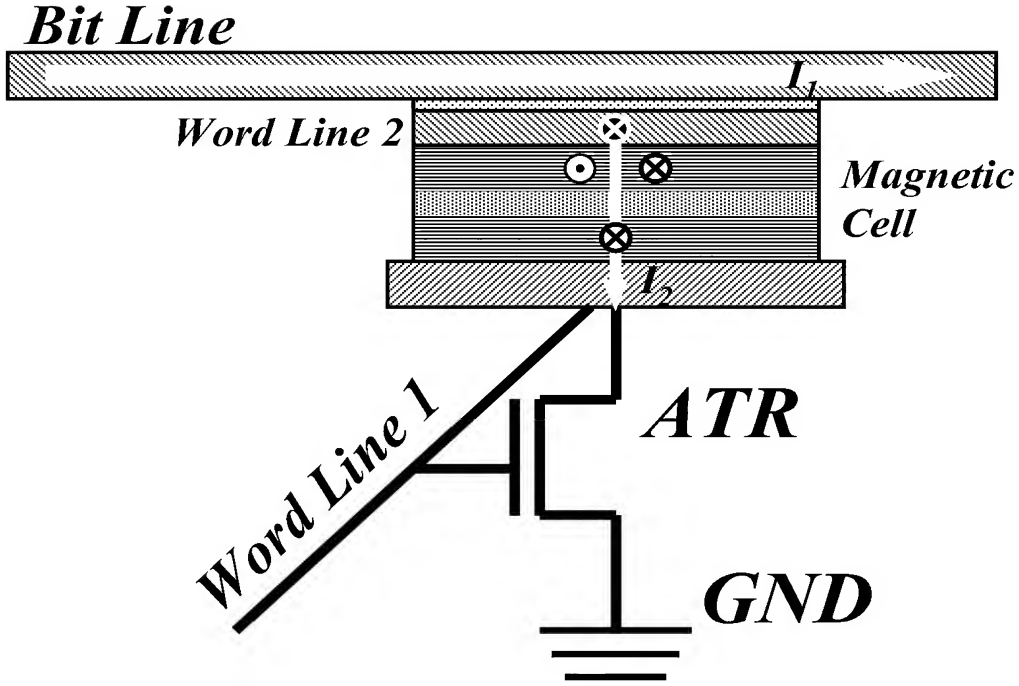
Bit Line
I_1
Word Line 2
Magnetic Cell
I_2
ATR
Word Line 1
GND

Fig. 8

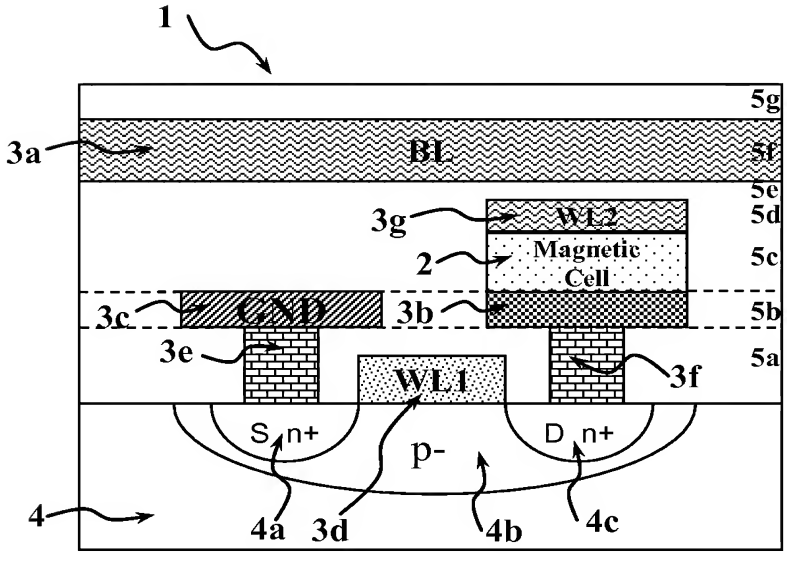
1
5g
3a
BL
5f
5e
3g
WL2
5d
Magnetic Cell
2
5c
3c
GND
3b
5b
3e
5a
WL1
3f
S n+
p-
D n+
4
4a
3d
4b
4c

Fig. 9